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# Pollution and Erosion Control Plan Black Sand Removal Action

## Crawford Street Site Portland, Oregon

*Prepared for*  
Crawford Street Corporation

September 21, 2001



BRIDGEWATER GROUP, INC.

USEPA SF



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## SECTION 1

# INTRODUCTION AND PROJECT BACKGROUND

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This Pollution and Erosion Control Plan (PECP) presents the procedures and processes that will be used to minimize and control pollution and erosion during performance of the black sand removal action at the Crawford Street site in Portland, Oregon (Figure 1-1).

This PECP has been prepared in conjunction with a U.S. Army Corps of Engineers/Oregon State Division of State Lands Joint Permit Application. A copy of the permit application is provided in Appendix A.

## 1.1 Site Description

The Crawford Street property is located between North Burlington and North Richmond Streets in north Portland and is bordered by North Crawford Street and the Willamette River (Figure 1-2). The portion of the property where the black sand removal work will occur (i.e. the "Site") is in the southwest corner of the Crawford Street site, near the Willamette River. The Site includes an area on the beach of the Willamette River and along the top edge of the bank, above the beach. The Site is currently vacant except for a chain-link fence located along the top of the bank.

The beach portion of the Site is unvegetated sand with scattered woody debris (i.e. logs, sticks) and concrete debris. Scattered trees and shrubs are present along the slope and top of the bank.

Ordinary high water (about elevation 16 ft NGVD) corresponds to the middle portion of the bank. The top of the bank is at about elevation 30 feet. The bank lies at an approximate 4H:3V slope at the Site. The beach lies below the normal water level and is typically submerged.

The Willamette River is currently at historically low levels and the beach is outside the wetted perimeter of the river. During high tide, the river level is at about elevation 4 ft (NGVD) and at low tide the river is at about 1 ft (NGVD). Figure 1-4 shows a typical cross section of the beach and adjacent bank.

## 1.2 Site History and Project Description

Recent sampling and analysis has indicated elevated concentrations of hazardous substances in black sand found on the Site. In particular, Black sand is visually apparent on the ground surface in two areas of the Site; along an approximate 150-foot length of beach and along an

approximate 150-foot length of the top edge of the bank above the beach area. Figure 1-3 shows the extent of the black sand in these two areas of the Site. The depth of the black sand in these two areas is about 1 to 2 feet. Figure 1-4 shows a schematic cross-section of the Site with the location and relative elevation of the black sand areas.

Based on the recent sampling and analysis, DEQ determined that possible releases of hazardous substances from the black sand in these areas could potentially migrate to the Willamette River and pose a threat to ecological receptors in the river.

On August 28, 2001, DEQ issued a letter to CSC requesting that CSC remove the black sand from the beach and from along the top of the adjacent bank to prevent potential future migration of hazardous substances from the black sand to the river. A copy of the letter is provided in Appendix B of this Work Plan.

## SECTION 2

# BLACK SAND REMOVAL ACTIVITIES

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This section describes the tasks that will be performed to complete the black sand removal action work.

## 2.1 Remove Black Sand from Beach

The area of the black sand that will be removed from the beach is shown in Figure 1-3. The black sand will be removed from the beach area using a high-capacity vacuum truck. The truck will be parked along the top of the bank, above the beach removal area. No large equipment will be placed on the beach.

The nominal 6-inch diameter vacuum hose will be extended down the bank to the beach. Two workers will manually move the end of the hose around the beach removal area, sucking the black sand up the hose and into the truck.

The workers will remove the black sand from around and beneath the large debris present on the beach as practicable with the vacuum hose. Large wood and concrete debris will not be moved. The workers will not disturb the limited vegetation that is present in black sand area on the beach. The workers will not remove beach material closer to the water than the limits of the black sand area shown on Figure 2. Although the workers may walk in the area between the removal area and the water, no major removal activities will occur in this area.

Based on the beach area shown in Figure 1-3 and the apparent black sand depth of about 1 to 2 feet, a total of about 150 cubic yards of black sand are anticipated to be removed from the beach area. This estimated volume includes some contingency for additional black sand discovered beyond the boundaries shown in Figure 1-3.

## 2.2 Remove Black Sand from Edge of Bank

Black sand present along the edge of the top of the bank will be removed to prevent future possible sloughing during anticipated future high water conditions. The area of the bank edge removal is shown in Figure 1-3. The black sand will be removed back from the bank edge a minimum distance of 10 feet. The material will be removed using either a high-capacity vacuum truck or an excavator. Approximately 150 cubic yards of black sand are anticipated to be removed from the bank edge.

Small vegetation and debris present in the bank edge black sand area will be removed as necessary prior to starting the excavation work. Large trees will not be removed.

## 2.3 Temporary Stockpile Excavated Black Sand

The removed black sand will be hauled from the top of the bank and placed in temporary stockpiles located in the area shown on Figure 1-2. The material will be stored in the stockpiles until final disposition of the black sand is determined.

The stockpiles will be placed on a minimum 12-mil-thick plastic to prevent contact between the stockpiled material and the underlying existing ground surface. The existing ground surface will be cleared of debris and sharp objects prior to the liner being placed.

The stockpiles will be bermed and covered to prevent run-on and runoff and to prevent wind erosion. The stockpile areas will be fenced with a temporary fence to discourage unauthorized access to the stockpiles.

The run-on and run-off control, covering, liner beneath the stockpile area, and surrounding fence meets the substantive technical requirements for hazardous waste piles presented in 40CFR 265.250. DEQ cleanup regulations exempt the stockpile from hazardous waste storage permit requirements.

## 2.4 Backfill and Revegetate Removal Areas

### 2.4.1 Beach Removal Area

The beach removal area will not be backfilled. The edges of the removal area will be hand graded to prevent tripping hazards until the river levels rise to normal levels above the beach removal area. No vegetation will be removed from the beach removal area.

### 2.4.2 Bank Edge Removal Area

Clean, import backfill will be placed in the bank edge removal area after the black sand has been removed. The backfill will be graded to discourage surface water runoff from the uplands down the bank.

Representative samples of the import material will be collected at a frequency of one sample for every 100 yards of material, and will be analyzed for petroleum hydrocarbons, PCBs, and metals to confirm the lack of elevated concentrations of hazardous substances.

Once the bank edge area has been backfilled, the disturbed removal area will be revegetated with native plant species including alder and ash trees and native grasses. Straw bales, long-term silt fencing, and seed mat will be used as necessary to prevent soil erosion while vegetation is being established.

## SECTION 3

# POLLUTION AND EROSION CONTROLS

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Several site control measures will be implemented during the field activities to prevent impacts to nearby areas and workers. These controls meet the requirements of Reasonable and Prudent Measures #16 for all construction activities as described in the biological opinion for the National Marine Fisheries Service programmatic consultation for common activities. The black sand removal work is anticipated to be considered under the Minor Discharge and Excavation category covered under the programmatic consultation.

The erosion and sediment control features described above will remain in place until the bank edge is sufficiently vegetated such that erosion will not occur under typical rainfall events.

## 3.1 Methods to Prevent Erosion and Sedimentation

- A silt fence will be placed along river between the waterline and the beach removal area.
- Work will be performed during dry weather conditions to prevent surface water runoff to river.
- Stockpiles will be lined, bermed, and covered to prevent run-on and runoff.
- The work will be performed during low tide conditions, as practicable, to reduce the potential for run off to the river.
- Disturbance of vegetation along the top of bank will be minimized and only as necessary to remove black sand.
- No heavy equipment will be used on the beach.

## 3.2 Methods to Confine and Remove Excess Concrete

- No concrete or asphalt placement is being performed as part of the project.

## 3.3 Hazardous Products Used

- No hazardous products will be used in the beach removal area.

- Other than fuel contained in vehicle and equipment fuel tanks, no hazardous products will be used on the bank above the beach. Equipment will be inspected daily for evidence of drips or spills.
- Oil and grease will be cleaned from the exterior surfaces of vehicles or equipment to be used on the bank above the beach.
- No equipment or vehicle refueling will be conducted within 150 feet of the bank.

### **3.4 Spill Containment and Control Plan**

- Any spills of hazardous substances from the equipment will be immediately cleaned up and runoff from the spill area prevented until the cleanup is completed.
- Equipment will be inspected daily for evidence of drips or spills.
- A spill cleanup kit will be maintained on site during the removal work.

### **3.5 Measures to Prevent Construction Debris from Falling into Aquatic Habitat**

- No removal activities will be allowed within 20 feet of waterline.
- Woody debris will not be removed from the bank or beach.

- f: **To implement Reasonable and Prudent Measure #8 (other minor discharges and excavations)<sup>13</sup> above, the COE shall ensure that:**
- a. Permits for minor discharge or excavation actions are not issued under this Opinion to authorize any minor discharge or excavation that proposes stream diversion during construction.
  - b. Erosion control. All activities involving placement of material along or adjacent to streambanks for the purpose of preventing bank erosion must also meet all terms and conditions for Reasonable and Prudent Measure #1 (erosion control).
  - c. Construction. All activities involving temporary access roads, use of heavy equipment, earthwork, site restoration, or that may otherwise involve in-water work or affect fish passage, must also meet all applicable terms and conditions to implement Reasonable and Prudent Measure #16 (construction).
  - d. Discharge and outfall management. Any activity involving a water discharge or an outfall authorized under this Opinion must be managed to ensure that discharge will meet state water quality standards before reaching a receiving water and will not significantly alter instream flow rates, including the timing, magnitude or duration of instream peak flows.
  - e. Fish screen. Any water intake structure authorized under this Opinion must have a fish screen installed, operated and maintained in accordance to NMFS' fish screen criteria.<sup>14</sup>
  - f. Supporting analysis: Dredging. Authorization of a dredging activity under this Opinion must be based on a written assessment of the following:
    - i. Environmentally acceptable alternatives for management of the dredged material;<sup>15</sup> and for projects in estuarine or marine environments,
    - ii. benthic invertebrate species composition and productivity.

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<sup>13</sup> "Minor discharges and excavations" means small structural fills, minor excavations or dredging such as that necessary for culvert maintenance, installation of outfall structure and minor repairs of previously authorized structures.

<sup>14</sup> National Marine Fisheries Service, *Juvenile Fish Screen Criteria* (revised February 16, 1995) and *Addendum: Juvenile Fish Screen Criteria for Pump Intakes* (May 9, 1996)(guidelines and criteria for migrant fish passage facilities, and new pump intakes and existing inadequate pump intake screens) (<http://www.nwr.noaa.gov/1hydrop/hydroweb/ferc.htm>).

<sup>15</sup> U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, Oregon Department of Environmental Quality, Washington Department of Ecology, and Washington Department of Natural Resources, *Dredged Material Evaluation Framework: Lower Columbia River Management Area* (November 1998)(providing a consistent set of procedures to determine sediment quality for dredging activities)(<http://www.nwp.usace.army.mil/ec/h/hr/Final/>).



- g. Dredge spoil dewatering. Discharge water from any upland facility used to store spoils dredged pursuant to a permit issued under this Opinion must be managed to ensure that:
  - i. The discharge is detained or treated to meet state water quality standards for temperature, turbidity, and other criteria before reaching a receiving water, and will not significantly alter instream flow rates, including the timing, magnitude or duration of instream peak flows; and
  - ii. no outfall or diffuser port will discharge water at a rate exceeding four feet per second.
- h. Culvert maintenance. Culverts will be constructed, maintained, repaired or improved as follows:
  - i. All work will be done in the dry, unless it is demonstrated that no listed or proposed fish, including rearing juveniles, are likely to be present during project activities;
  - ii. culvert designs must comply with ODFW guidelines and criteria for stream-road crossings<sup>16</sup> with appropriate grade controls to prevent culvert failure due to changes in stream elevation; and
  - iii. culverts must be cleaned by working from the top of the bank to remove only the minimum amount of wood, sediment and other natural debris necessary to maintain culvert function without disturbing and spawning gravels.
- i. Monitoring: Other minor discharges and excavation. Within 30 days of completing the project, the applicant will submit a monitoring report to the COE describing the applicant's success meeting permit conditions. This report will consist of the following information.
- j. Project identification.
  - i. Permit number;
  - ii. applicant's name;
  - iii. project name;
  - iv. category of activity under which the permit was issued;
  - v. location by 5<sup>th</sup> field hydrological unit code (HUC) and latilong;
  - vi. starting and ending dates for work performed under the permit; and
  - vii. the COE contact person.
- k. A copy of the supporting analysis for any dredging, including environmentally acceptable alternatives for management of the dredged material and, for projects in estuarine or marine environments, benthic invertebrate species composition and productivity.
- l. A narrative assessment of the project's effects on natural stream function.

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<sup>16</sup> Appendix A, Oregon Department of Fish and Wildlife Guidelines and Criteria for Stream-Road Crossings, in: G.E. Robison, A. Mirati, and M. Allen, *Oregon Road/Stream Crossing Restoration Guide: Spring 1999* (rules, regulations and guidelines for fish passage through road/stream crossings under the Oregon Plan) (<http://www.nwr.noaa.gov/1salmon/salmesa/4ddocs/orfishps.htm>).

- m. Photographic documentation of environmental conditions at the project site before, during and after project completion.
  - i. Photographs will include general project location views and close-ups showing details of the project area and project, including pre and post construction.
  - ii. Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.

Relevant habitat conditions include characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project.

**Reasonable and Prudent Measure #16 for all construction activities:**

- a. Project design. Each project will be individually reviewed to ensure that all reasonable alternatives to rip rap have been considered and impacts to natural resources have been avoided, minimized and mitigated, and that the following overall project design conditions are met.
  - i. Minimum area. Construction impacts will be confined to the minimum area necessary to complete the project.
  - ii. In-water work. All work within the active channel of all anadromous fish-bearing streams, or in systems which could potentially contribute sediment or toxicants to downstream fish-bearing systems, will be completed within the ODFW approved in-water work period;<sup>20</sup> except for Oregon Coast estuaries and tidally affected waters.
    - (1) Oregon Coast. In coastal estuarine and tidally affected waters, exclusive of the Columbia River watershed, work may occur under this Opinion only during that summer period designated by ODFW for the riverine reach immediately upstream of the tidally affected water (i.e., Tillamook Bay - July 1 to September 15). Actions occurring outside this window must seek separate Opinion.
    - (2) Work period extensions. Extensions of the in-water work period, including those for work outside the wetted perimeter of the stream but below the ordinary high water mark must be approved by biologists from NMFS.
    - (3) Isolation of in-water work area. During in-water work, if listed fish may be present, including incubating eggs or juveniles, and the project involves either significant channel disturbance or use of equipment instream, ensure that the work area is well isolated from the active flowing stream within a cofferdam (made out of sandbags, sheet pilings, inflatable bags, etc.), or similar structure, to minimize the potential for sediment entrainment. Furthermore, no ground or substrate disturbing action will occur within the active channel 300 feet upstream of potential spawning habitat as measured at the thalweg without isolation of the work area from flowing waters.
      - (a) Fish screen. Any water intake structure authorized under this Opinion must have a fish screen installed, operated and maintained in accordance to NMFS' fish screen criteria.<sup>21</sup>

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<sup>20</sup> Oregon Department of Fish and Wildlife, *Guidelines for Timing of In-Water Work to Protect Fish and Wildlife Resources*, 12 pp (June 2000)(identifying work periods with the least impact on fish)([http://www.dfw.state.or.us/ODFWhtml/InfoCntrHbt/0600\\_inwtrguide.pdf](http://www.dfw.state.or.us/ODFWhtml/InfoCntrHbt/0600_inwtrguide.pdf)).

<sup>21</sup> National Marine Fisheries Service, *Juvenile Fish Screen Criteria* (revised February 16, 1995) and *Addendum: Juvenile Fish Screen Criteria for Pump Intakes* (May 9, 1996)(guidelines and criteria for migrant

- (b) Seine and release. Prior to and intermittently during pumping attempts will be made to seine and release fish from the work isolation area as is prudent to minimize risk of injury.
- (i) Seining will be conducted by or under the supervision of a fishery biologist experienced in such efforts and all staff working with the seining operation must have the necessary knowledge, skills, and abilities to ensure the safe handling of all ESA-listed fish.
  - (ii) ESA-listed fish must be handled with extreme care and kept in water to the maximum extent possible during seining and transfer procedures. The transfer of ESA-listed fish must be conducted using a sanctuary net that holds water during transfer, whenever necessary to prevent the added stress of an out-of-water transfer.
  - (iii) Seined fish must be released as near as possible to capture sites.
  - (iv) The transfer of any ESA-listed fish from the applicant to third-parties other than NMFS personnel requires written approval from the NMFS.
  - (v) The applicant must obtain any other Federal, state, and local permits and authorizations necessary for the conduct of the seining activities.
  - (vi) The applicant must allow the NMFS or its designated representative to accompany field personnel during the seining activity, and allow such representative to inspect the applicant's seining records and facilities.
  - (vii) A description of any seine and release effort will be included in a post-project report, including the name and address of the supervisory fish biologist, methods used to isolate the work area and minimize disturbances to ESA-listed species, stream conditions prior to and following placement and removal of barriers; the means of fish removal; the number of fish removed by

species; the condition of all fish released, and any incidence of observed injury or mortality.

- (c) Water pumped from the work isolation area will be discharged into an upland area providing over-ground flow prior to returning to the creek. Discharge will occur in such a manner as not to cause erosion.
  - (d) Discharges into potential fish spawning areas or areas with submerged vegetation are prohibited.
- iii. Fish passage. Work will not inhibit passage of any adult or juvenile salmonid species throughout the construction period or after project completion. All culvert and road designs must comply with ODFW guidelines and criteria for stream-road crossings with appropriate grade controls to prevent culvert failure due to changes in stream elevation. Channel modifications which could adversely affect fish passage, such as by increasing water velocities, are not authorized by this Opinion.
- iv. Pollution and erosion control plan. A Pollution and Erosion Control Plan (PECP) will be developed for each authorized project to prevent point-source pollution related to construction operations. The PECP will contain the pertinent elements listed below and meet requirements of all applicable laws and regulations:
  - (1) Methods that will be used to prevent erosion and sedimentation associated with access roads, stream crossings, construction sites, borrow pit operations, haul roads, equipment and material storage sites, fueling operations and staging areas.
  - (2) Methods that will be used to confine and remove and dispose of excess concrete, cement and other mortars or bonding agents, including measures for washout facilities.
  - (3) A description of the hazardous products or materials that will be used, including inventory, storage, handling, and monitoring.
  - (4) A spill containment and control plan with notification procedures, specific clean up and disposal instructions for different products, quick response containment and clean up measures that will be available on site, proposed methods for disposal of spilled materials, and employee training for spill containment.
  - (5) Measures that will be taken to prevent construction debris from falling into any aquatic habitat. Any material that falls into a stream during construction operations will be removed in a manner that has a minimum impact on the streambed and water quality.

v. Temporary access roads. Temporary access roads are designed as follows:

- (1) Existing roadways or travel paths will be used whenever reasonable.
- (2) Where stream crossings are essential, a survey must determine and map any potential spawning habitat within 1,000 feet upstream and downstream.
- (3) No stream crossings will occur at known or suspected spawning areas or within 300 feet upstream of such areas where impacts to spawning areas may occur.
- (4) Where stream crossings are essential, the crossing design will accommodate reasonably foreseeable risks (e.g., flooding and associated bedload and debris) to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.
- (5) Vehicles and machinery must cross riparian areas and streams at right angles to main the main channel wherever reasonable.
- (6) Temporary roads within 150 feet of streams will avoid, minimize and mitigate soil disturbance and compaction by clearing vegetation to ground level and placing clean gravel over geotextile fabric.
- (7) The number of stream crossings is minimized.

vi. Treated wood removal. Projects requiring treated wood removal will use the following precautions.

- (1) Care will be taken to ensure that no treated wood debris falls into the water. If treated wood debris does fall into the water, it will be removed immediately.
- (2) All treated wood debris will be disposed of at an approved disposal facility for treated wood.
- (3) If treated wood pilings will be removed, the following conditions apply:
  - (a) Pilings to be removed will be dislodged with a vibratory hammer.
  - (b) Once loose, the pilings will be placed onto the construction barge or other appropriate dry storage location, and not left in the water or piled onto the stream bank.
  - (c) If pilings break during removal, the remainder of the submerged section will be left in place.
  - (d) Long- term disposal of the piles must be at an approved disposal area for hazardous materials of this classification.
  - (e) Projects involving pile removal require long-term monitoring to ensure that if altered currents expose more pile, it must also be removed.

- vii. Cessation of work. All project operations, except efforts to minimize storm or high flow erosion, will cease under high flow conditions that may result in inundation of the project area.
- b. Pre-construction activities. Prior to significant alteration of the action area, the following actions will be accomplished.
  - i. Boundaries of the clearing limits associated with site access and construction are flagged to prevent ground disturbance of critical riparian vegetation, wetlands and other sensitive sites beyond the flagged boundary.
  - ii. The following erosion control materials are onsite.
    - (1) A supply of erosion control materials (e.g., silt fence and straw bales) is on hand to respond to sediment emergencies. Sterile straw or hay bales will be used when available to prevent introduction of weeds.
    - (2) An oil absorbing, floating boom is available on-site during all phases of construction whenever surface water is present.
  - iii. All temporary erosion controls (e.g., straw bales, silt fences) are in-place and appropriately installed downslope of project activities within the riparian area. Effective erosion control measures will be in-place at all times during the contract, and will remain and be maintained until such time that permanent erosion control measures are effective.
- c. Heavy Equipment. Heavy equipment use will be restricted as follows.
  - i. When heavy equipment is required, the applicant will use equipment having the least impact (e.g., minimally sized, rubber tired).
  - ii. Heavy equipment will be fueled, maintained and stored as follows.
    - (1) All equipment that is used for instream work will be cleaned prior to operations below the bankfull elevation. External oil and grease will be removed, along with dirt and mud. No untreated wash and rinse water will be discharged into streams and rivers without adequate treatment.
    - (2) Place vehicle staging, maintenance, refueling, and fuel storage areas a minimum of 150 feet horizontal distance from any stream.
    - (3) All vehicles operated within 150 feet of any stream or water body will be inspected daily for fluid leaks before leaving the vehicle staging area. Any leaks detected will be repaired before the vehicle resumes operation.
    - (4) When not in use, vehicles will be stored in the vehicle staging area.
- d. Site preparation. Site preparation is completed in the following manner, including removal of stream materials, topsoil, surface vegetation and major root systems.

- i. Any instream large wood or riparian vegetation that is moved or altered during construction will stay on site or be replaced with a functional equivalent.
  - ii. Clearing and grubbing will not exceed 250 square feet within 150 feet of any stream occupied by listed salmonids during any part of the year, or within 50 feet of any stream not occupied by listed salmonids.
  - iii. Tree removal will be strictly limited.
    - (1) All perennial and intermittent streams: No tree (3 inches diameter at breast height or greater) will be removed from within 50 feet horizontal distance of the ordinary high water mark.
    - (2) On any stream supporting a listed salmonid: No more than 5 trees (3 inches diameter at breast height or greater) total may be removed from the area spanning 50 feet to 150 feet horizontal distance from the ordinary high water mark.
    - (3) Tree removal will be mitigated for onsite by a 2:1 replanting ratio.
  - iv. Whenever the project area is to be revegetated or restored, native channel material, topsoil and native vegetation removed for the project should be stockpiled for redistribution on the project area.
- e. Earthwork. Earthwork, including drilling, blasting, excavation, dredging, filling and compacting, is completed in the following manner:
- i. Boulders, rock, woody materials and other natural construction materials used for the project must be obtained from outside of the riparian area.
  - ii. During excavation, native streambed materials will be stockpiled above the bankfull elevation for later use. Once riprap has been placed, native materials will be placed over the top of the riprap.
  - iii. Material removed during excavation will only be placed in locations where it cannot enter streams or other water bodies.
  - iv. All exposed or disturbed areas will be stabilized to prevent erosion.
    - (1) Areas of bare soil within 150 feet of waterways, wetlands or other sensitive areas will be stabilized by native seeding,<sup>23</sup> mulching, and placement of erosion control blankets and mats, if applicable, quickly as reasonable after exposure, but within 7 days of exposure.
    - (2) All other areas will be stabilized quickly as reasonable, but within 14 days of exposure.
    - (3) Seeding outside of the growing season will not be considered adequate nor permanent stabilization.

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<sup>23</sup> By Executive Order 13112 (February 3, 1999), Federal agencies are not authorized to permit, fund or carry out actions that are likely to cause, or promote, the introduction or spread of invasive species. Therefore, only native vegetation that is indigenous to the project vicinity, or the region of the state where the project is located, shall be used.



- v. All erosion control devices will be inspected during construction to ensure that they are working adequately.
  - (1) Erosion control devices will be inspected daily during the rainy season, weekly during the dry season, monthly on inactive sites.
  - (2) If inspection shows that the erosion controls are ineffective, work crews will be mobilized immediately, during working and off-hours, to make repairs, install replacements, or install additional controls as necessary.
  - (3) Erosion control measures will be judged ineffective when turbidity plumes are evident in waters occupied by listed salmonids during any part of the year.
- vi. If soil erosion and sediment resulting from construction activities is not effectively controlled, the engineer will limit the amount of disturbed area to that which can be adequately controlled.
- vii. Sediment will be removed from sediment controls once it has reached 1/3 of the exposed height of the control. Whenever straw bales are used, they will be staked and dug into the ground 5 inches (12 cm). Catch basins will be maintained so that no more than 6 inches (15 cm) of sediment depth accumulates within traps or sumps.
- viii. Sediment-laden water created by construction activity will be filtered before it leaves the right-of-way or enters a stream or other water body. Silt fences or other detention methods will be installed as close as reasonable to culvert outlets to reduce the amount of sediment entering aquatic systems.
- f. Site restoration. Site restoration and clean-up, including protection of bare earth by seeding, planting, mulching and fertilizing, is done in the following manner.
  - i. All damaged areas will be restored to pre-work conditions including restoration of original streambank lines, and contours.
  - ii. All exposed soil surfaces, including construction access roads and associated staging areas, will be stabilized at finished grade with mulch, native herbaceous seeding, and native woody vegetation prior to October 1. On cut slopes steeper than 1:2, a tackified seed mulch will be used so that the seed does not wash away before germination and rooting occurs. In steep locations, a hydro-mulch will be applied at 1.5 times the normal rate.
  - iii. Disturbed areas will be planted with native vegetation specific to the project vicinity or the region of the state where the project is located, and will comprise a diverse assemblage of woody and herbaceous species.
  - iv. Plantings will be arranged randomly within the revegetation area.
  - v. All plantings will be completed prior to April 15.

- vi. No herbicide application will occur within 300 feet of any stream channel as part of this permitted action. Mechanical removal of undesired vegetation and root nodes is permitted.
- vii. No surface application of fertilizer will be used within 50 feet of any stream channel as part of this permitted action.
- viii. Fencing will be installed as necessary to prevent access to revegetated sites by livestock or unauthorized persons.
- ix. Plantings will achieve an 80 percent survival success after three years.
  - (1) If success standard has not been achieved after 3 years, the applicant will submit an alternative plan to the COE. The alternative plan will address temporal loss of function.
  - (2) Plant establishment monitoring will continue and plans will be submitted to the COE until site restoration success has been achieved.
- g. Compensatory mitigation. Authorizations of projects that result in permanent, new impermeable surfaces, hard structures, or other conditions that prevent the reestablishment of natural riparian vegetation or otherwise preclude natural hydrologic and erosion processes must include compensatory mitigation as follows:
  - i. Design. In determining the nature and extent of mitigation required, the COE will consider the functional values lost and the likelihood of success.
    - (1) The COE will give preference to types of mitigation most likely to achieve a level of ecological function that is equal to or greater than was lost due to completion of the project.
    - (2) If on-site mitigation is not feasible due to space limitations at the project site, off-site mitigation will be undertaken close to the action area, within the same 5<sup>th</sup> order HUC, or otherwise as near to the action area as possible. The COE will not accept operational convenience or cost as acceptable justifications for choosing to mitigate off-site.
    - (3) Mitigation will be measured in actual acreage and, to the extent possible, ecosystem function.
  - ii. Erosion control. All mitigation activities involving placement of material along or adjacent to streambanks for the purpose of preventing bank erosion must also meet all terms and conditions for Reasonable and Prudent Measure #1 (erosion control).
  - iii. Construction. All mitigation activities involving temporary access roads, use of heavy equipment, earthwork, site restoration, or that may otherwise involve in-water work or affect fish passage, must also meet all other applicable terms and conditions to implement this Reasonable and Prudent Measure ( #16, construction).
- h. Monitoring: Construction. Within 30 days of completing the project, the applicant will submit a monitoring report to the COE describing the

applicant's success meeting their permit conditions. This report will consist of the following information.

- i. Project identification.
  - (1) Permit number;
  - (2) applicant's name;
  - (3) project name;
  - (4) category of activity under which the permit was issued;
  - (5) project location by 5<sup>th</sup> field hydrological unit code (HUC) and latilong;
  - (6) compensatory mitigation site(s) (if any) by 5<sup>th</sup> field HUC and latilong;
  - (7) starting and ending dates for work performed under the permit; and
  - (8) the COE contact person.
- ii. Isolation of in-water work area. All projects involving isolation of in-water work areas must include a report of any seine and release activity including:
  - (1) The name and address of the supervisory fish biologist;
  - (2) methods used to isolate the work area and minimize disturbances to ESA-listed species;
  - (3) stream conditions prior to and following placement and removal of barriers;
  - (4) the means of fish removal;
  - (5) the number of fish removed by species;
  - (6) the location and condition of all fish released; and
  - (7) any incidence of observed injury or mortality.
- iii. Pollution and erosion control. Copies of all pollution and erosion control inspection reports, including descriptions of any failures experienced with erosion control measures, efforts made to correct them and a description of any accidental spills of hazardous materials.
- iv. Treated wood pilings. Any project involving removal of treated wood pilings must include the name and address of the approved disposal area and the plan for long-term monitoring to ensure that if altered currents expose more pile, it will also be removed.
- v. Site restoration. Documentation of the following conditions:
  - (1) Finished grade slopes and elevations.
  - (2) Log and rock structure elevations, orientation, and anchoring, if any.
  - (3) Planting composition and density.
  - (4) A plan to inspect and, if necessary, replace failed plantings and structures for a period of five years.
- vi. A narrative assessment of the project's effects on natural stream function.

- vii. Photographic documentation of environmental conditions at the project site and compensatory mitigation site(s) (if any) before, during and after project completion.
- (1) Photographs will include general project location views and close-ups showing details of the project area and project, including pre and post construction.
  - (2) Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.
  - (3) Relevant habitat conditions include characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project.

**MONITORING: Maintenance of Existing Structures and Marinas.** Within 30 days of completing the project, the applicant will submit a monitoring report to the Corps describing the applicant's success meeting permit conditions.

- a. Project Identification.
  - i. Corps Permit No.: 2001-00853
  - Applicant Name: Crawford Street Corporation
  - ii. Project Name: Removal of Contaminated Sediment
  - iii. Category of activity under which the permit was issued:  
Minor Discharges and Excavations
  - iv. Location by 5<sup>th</sup> field hydrological unit code (HUC) and lat/long  
Willamette- Lower  
N45 - 35; W122 - 45
  - v. Starting and ending dates for work performed under the permit:  
Start - \_\_\_\_\_.  
End - \_\_\_\_\_.
  - vi. Corps contact person: Ms. Judy Linton (503) 808-4382

**ATTACH THE FOLLOWING:**

- b. A narrative assessment of the project's effects on natural stream function.
- c. Photographic documentation of environmental conditions at the project site **before, during and after** project completion.
  - i. *Include:* Photographs will include general project location views and close-ups showing details of the project area and project, including pre and post construction.
  - ii. *Label:* Each photograph will be labeled with the date, time, photo point, project name, the name of the photographer, and a comment describing the photograph's subject.
  - iii. *Show:* Relevant habitat conditions including characteristics of channels, streambanks, riparian vegetation, flows, water quality, and other visually discernable environmental conditions at the project area, and upstream and downstream of the project.

**Biological Opinion on Corps of Engineers' Programmatic  
Consultation for Permit Issuance for 15 Categories of Activities in  
Oregon, dated March 21, 2001**

The Corps has used a programmatic procedure, developed with the National Marine Fisheries Service, to evaluate your proposal for compliance with the Endangered Species Act and the Magnuson-Stevens Act for essential fish habitat. Please note that there are certain requirements you must comply with for this procedure to be used (Enclosure 6). You must complete and submit the required monitoring report within 30 days of the project completion. Part of this requirement includes taking pre- and post-construction photographs to be included in the report.

The programmatic procedure also requires that we provide the following declaration:

**NOTICE:** If a dead, injured, or sick endangered or threatened species specimen is located, initial notification must be made to the National Marine Fisheries Service Law Enforcement Office, located at the Vancouver Field Office, 600 Maritime, Suite 130, Vancouver Washington 98661; phone: 360-418-4246. Care should be taken in handling sick or injured specimens to ensure effective treatment and care or the handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered and threatened species or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by Law Enforcement to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

### Compliance Certification

Permit Number: \_\_\_\_\_

Date of Issuance: \_\_\_\_\_

Name of Permittee: \_\_\_\_\_

I hereby certify that the work authorized by the above referenced permit, has been completed in accordance with the terms and conditions of the said permit, and that required mitigation was completed in accordance with the permit conditions, except as described below.

\_\_\_\_\_  
Signature of Permittee

Encl 7